

**ENVIRONMENTAL ASSESSMENT,
FINDING OF NO SIGNIFICANT IMPACT,
AND RECORD OF DECISION**

for

PREDATOR DAMAGE MANAGEMENT IN NEW MEXICO

Prepared by:

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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in cooperation with:

NEW MEXICO DEPARTMENT OF AGRICULTURE

and

NEW MEXICO DEPARTMENT OF GAME AND FISH

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for
Predator Damage Management in New Mexico**

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program responds to a variety of requests for assistance from individuals, and private and public organizations and agencies experiencing damage caused by wildlife in New Mexico. The following document is a decision document for an environmental assessment (EA) that described and analyzed WS's involvement in a portion of wildlife damage management (WDM) activities in New Mexico, specifically the management of predators. WS WDM activities are conducted in cooperation with other Federal, state, and local agencies, as well as private organizations and individuals.

APHIS-WS has the Federal statutory authority under the Act of March 2, 1931, as amended, and the Act of December 22, 1987, to cooperate with other Federal agencies and programs, States, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of wildlife services involving animal species that are injurious or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health, safety and well-being, and conducting wildlife management programs involving mammal and bird species that are reservoirs for zoonotic diseases.

WS cooperates with the New Mexico Department of Agriculture (NMDA), New Mexico Department of Game and Fish (NMDGF), and several Counties in New Mexico in providing assistance with requests for WDM service. Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual WDM actions are categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). However, with regard to WS's predator damage management (PDM) activities in New Mexico, WS prepared an environmental assessment (EA) according to the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 *et seq.*), the regulations of the Council on Environmental Quality (CEQ) for implementing the procedural provisions of NEPA (40 CFR parts 1500-1508), the USDA regulations implementing NEPA (7 CFR part 1b), and APHIS' NEPA Implementing Procedures (7 CFR part 372).

The EA was prepared to facilitate planning, interagency coordination, streamline program management, and to involve the public and obtain their input through comments and feedback. The EA analyzed and evaluated applicable environmental information along with other associated documentation or reference materials cited in it, to assist the agency decision maker in determining whether the proposed action (to continue with the current PDM actions in New Mexico as discussed in the EA) would have any significant impacts on the human environment.

WS previously prepared three EAs covering PDM for the 3 WS District in New Mexico (WS 1997a, b, c) with Records of Decision (RODs) and Findings of No Significant Impact (FONSIs). New FONSIs and RODs were completed in 2001 for the EAs (WS 2001a, b, c). The current EA combines the three EAs into one statewide EA to look at broader level impacts as they have not been found to be significant at the District level.

The EA that is the subject of this Decision included within its scope the following predator species that cause or may cause damage resulting in requests for WS PDM assistance. The species in New Mexico that cause frequent damage to agricultural and natural resources, property, or threaten human health and safety included coyotes (*Canis latrans*), striped skunks

(*Mephitis mephitis*), bobcats (*Lynx rufus*), cougars¹ (*Felis concolor*), black bears (*Ursus americanus*), feral/free roaming cats (*Felis domesticus*), feral/free roaming dogs (*Canis familiaris*), and raccoons (*Procyon lotor*). Other predators in New Mexico that have historically caused only localized damage annually to occasionally, at least once in the last 10 federal fiscal years (FY95-FY04 - ie., FY04 = Oct. 1, 2003 - Sept. 30, 2004) included the introduced Virginia opossums (*Didelphus virginianus*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), kit fox (*V. macrotis*), swift fox (*V. velox*), ringtails (*Bassariscus astutus*), badgers (*Taxidea taxus*), long-tailed weasels (*M. frenata*), feral domestic ferrets (*M. putorius furo*), western spotted skunks (*S. gracilis*), hooded skunks (*Mephitis macroura*), and hog-nosed skunks (*Conepatus mesoleucus*). Finally, a few additional predators were discussed that have not invoked complaints in the last 10 FYs and included eastern spotted skunks (*Spilogale putorius*), martens (*Mustela americana*), minks (*M. vison*), ermine (*M. erminea*), and white-nosed coatis (*Nasua narica*).

The EA documented the purpose and need for PDM in New Mexico. PDM could be initiated to address damage caused by any of the above species, but the majority of PDM in New Mexico is focused on the first 8 species given above. Impacts on these species and other predators from the current WS PDM program were discussed in the EA and served as a baseline to determine impacts of other alternatives to meet the need for action. The EA assessed potential impacts of various alternatives in relation to issues analyzed for responding to predator damage problems.

WS's proposed action is to continue the current PDM program in New Mexico that allows for the use of all legal PDM methods to resolve injurious or nuisance behavior from predators on all lands authorized in the State. NMDGF manages the above species populations with the exception of coyotes, skunks, opossum, feral domestic pets, and T&E species. The species NMDGF manage are classified as game animals or furbearers under New Mexico statutes. Game animals include the black bear and cougar. Furbearers include the mink, weasel, otter, ringtail cat, raccoon, marten, coati, badger, bobcat, red fox, gray fox, kit fox, and swift fox. Coyotes, skunks, and opossum are unprotected in New Mexico, and coyotes and skunks, and their damage are the responsibility of NMDGF and NMDA. In New Mexico, State law permits landowners and resource managers to take predators that are causing damage. By statute, NMDGF has the responsibility to manage predator damage, including coyote predation, to other wildlife. NMDA, has responsibility under New Mexico statutes to manage damage to agricultural and rangeland resources from predatory animals. Feral dogs, feral cats, and feral domestic ferrets are the responsibility of County and municipal Animal Control Offices or the County Sheriff Departments. And lastly, T&E species are managed by the U.S. Fish and Wildlife Service (USFWS), but management of these species can be deferred to NMDGF under agreement.

Under State law, NMDGF must respond to complaints from private landowners or lessees when protected wildlife, including game and furbearers, are causing damage. WS, under a Joint Powers Agreement (JPA) and contract, assists NMDGF with responding to these complaints. WS, under a Memorandums of Understanding (MOU) with NMDA, responds to agricultural and rangeland resource damage from predators. WS also assists public entities, such as USFWS, and Tribes with PDM when requested and when they have the appropriate permits necessary from NMDGF, as required. Coyotes, skunks, and opossum are not protected by NMDGF and are considered predatory animals; their damage to agricultural and rangeland resources are managed by NMDA, and WS under the MOU responds to requests for assistance. Landowners also have the right to protect their resources from unprotected predatory animals without a permit.

¹ NMDGF's regulations refer to mountain lions as cougars and thus this name will be used throughout the document, but are interchangeable.

A major overarching factor in determining how to analyze potential environmental impacts of WS's involvement in PDM in New Mexico is that if, for whatever reason, PDM conducted by WS was discontinued, similar types and levels of management will be continued by State or local governments, or private individuals or entities as required by State laws for predator control for privately owned resources. Thus, these PDM activities will take place without Federal assistance, but would not trigger NEPA. From a practical perspective, this means that the Federal WS program has limited ability to affect the environmental outcome of PDM in New Mexico, except that, based on WS employees' years of professional expertise and experience in dealing with PDM actions, the WS program is likely to have lower risks to and effects on nontarget species and on the human environment in general, including people, than some other programs or alternatives available to State agencies and private landowners. Therefore, WS has a less likely chance of negatively affecting the human environment affected by PDM actions than would non-Federal or private entities. In other words, we believe that our PDM activities have less of an adverse effect on the human environment than would PDM programs that would be likely to occur in the absence of WS PDM assistance. Thus, WS has a limited ability to affect the environmental status quo in New Mexico. Despite this limitation of Federal decision-making in this situation, this EA process is valuable for informing the public and decision-makers of relevant environmental issues and alternatives of PDM to address the various needs for action described in the EA.

Public Involvement

Drafts of the June 2005 predecisional EA were sent to 7 agencies with professional expertise or responsibility for management of wildlife, predator damage, or government-owned/managed land where PDM has been conducted or may be needed, for their review and comments. The comments received from these agencies were considered and, where appropriate, used in preparing the EA. Following interagency review of the draft, a predecisional EA was prepared and released to the public for a 49-day comment period. The EA was sent directly to 29 organizations and individuals on July 13, 2005. "Notices of Availability" (NOA) of the predecisional EA were published in 1 statewide (The Albuquerque Journal) and 2 local (The Santa Fe New Mexican and The Las Cruces Sun News) newspapers in New Mexico. All three newspapers ran the legal notice for 3 consecutive days: Albuquerque Journal (July 16-18, 2005) and Las Cruces Sun News and Santa Fe New Mexican (July 19-21, 2005). In addition, an NOA letter was sent to 34 interested public and private organizations and individuals. As a result of the newspaper notices and letters, 3 additional EAs were sent to individuals who requested them. The deadline for public comment was set at August 31, 2005. Two comment letters were received in response to the EA: 1 from a nonprofit environmental organization and 1 from a private individual.

The issues described in the comment letters for the most part were addressed in the EA. However, two comments indicated topics that warranted additional clarification or discussion. These are further addressed below. In addition, WS's consideration and responses to comments are attached to this Decision as Appendix A.

Issue 1: Area too large to be covered by a single EA.

A comment was received stating that the area covered by the EA (New Mexico) was too large and inappropriate, thus implying that WS needed to analyze site-specific impacts in the New Mexico PDM EA. This had been discussed in previous EAs (WS 1997a, b, c, 2001a, b, c) as was noted in Section 2.3.4 of the EA. Even so, the EA analyzed site-specific impacts associated with PDM in New Mexico where possible and realistic. However, the following discussion provides more detail on site-specific impacts of WS PDM.

Impacts from WS PDM are, for the most part, similar wherever they occur in New Mexico and can be discussed broadly. Therefore, a discussion of site-specific impacts would be unnecessary and redundant for most PDM activities. The EA, which this decision document is addressing, discussed site-specific impacts where impacts would be dissimilar to the statewide level impacts and where data was available to reasonably discuss such impacts (e.g., NMDGF provides harvest data for game animals and furbearers by game management zones and counties, but not exact site-specific areas). This data was used where determined necessary (e.g., data for cougar take was used by game management zone in Section 4.1.1.1 of the EA). The District-wide PDM EAs that were completed for New Mexico discussed impacts at the WS District level, as well as some site-specific levels, and found no significant impacts to the quality of the human environment (WS 1997a, b, c, 2001a, b, c).

WS PDM actions dealing with somewhat unpredictable predators are, in many respects, analogous to agencies or entities with similar damage management missions such as fire and police departments, emergency clean-up organizations, and insurance companies. Fire and police departments and other emergency response agencies cannot predict where the next fire will occur or where the next burglary or assault will happen. It would be both unrealistic and impractical for a fire or police department (or likewise for many PDM situations, a federal response agency like WS) to have to write an environmental analysis document with a 30-day comment period each time an emergency or relatively urgent request for assistance is received and before an action could be taken to address a site-specific problem. Exactly when or where wildlife will create the next conflict with people or their resources is not very predictable. We can evaluate and scrutinize where we have typically done PDM and other WS activities (e.g., disease management) in the past as discussed in sections 1.3 and 3.2.1.1 of the EA and thereby expect that we will probably be requested to do such actions in these general types of locations again in the future such as on farms and ranches with livestock or at airports (e.g., where coyotes have been traversing runways and pose collision risks to aircraft during take-offs and landings). However, we cannot definitively predict exactly which farms, ranches, or airports that have not before requested our services will do so in the future or those properties where WS PDM services will no longer be needed. As evidence of this, data given in Table 1 of the EA reflects the damage occurrences that were recorded in New Mexico and the varied number that occur from year to year, suggesting the inconsistency in predator damage on an annual basis. Additionally, Section 1.1.2 of the EA notes that WS has agreements on properties totaling 32% of the land acreage in New Mexico, yet WS only took target predators on 14% of the lands in New Mexico, or 46% of the land under agreements. Thus, PDM is conducted on only a portion of the existing properties under agreement in each year.

Damage is very likely to occur in new areas each year and new agreements for PDM as requested will likely be added to the agreements database while other agreements where PDM has been completed and not likely to be conducted in the future are cancelled or inactivated. Thus, PDM will be conducted on different properties annually reflecting these changes. Table 1 gives the number of properties under agreement where WDM (the Management Information System (MIS)

does not track PDM projects separately from all wildlife projects) was conducted by WS from FY01 to FY04 (excludes agreements under civil codes²). Table 1 also looks at the total number of properties under agreement where PDM was conducted by WS for two consecutive fiscal years and how many of these properties were worked in both fiscal years. The average number of different properties worked in two fiscal years (1,021) compared to the average number of properties with operational WDM in two consecutive years (514) is 50%. Therefore, half of the properties where WS provides WDM in two consecutive years will be the same and the other 50% different. Thus, the data in Table 1 indicate that there is only about a 50% chance that a specific property under agreement to receive WS WDM operational assistance will have operational WS WDM activity conducted on it in any 2 consecutive years. This demonstrates why we cannot predict with any substantive degree of accuracy the site-specific locations where such WDM will be conducted from one year to the next.

Table 1. WS conducts operational wildlife damage management (WDM) on cooperative agreements throughout much of New Mexico as described in Section 1.1.2 of the EA. The number of agreements where WDM projects were conducted changes annually and many of the agreements are not the same from year to year. This Table gives the number of agreements worked during the fiscal year (FY), the total number of same agreements worked in 2 FYs, the number of agreements that had operational WDM conducted on them in both FYs, and the percentage of agreements that were the same between in the 2 FYs.

Properties Where Operational WDM Was Conducted:	FY01	FY02	FY03	FY04	Ave.
- During the FY	813	815	721	767	779
- Added with Previous FY (# properties worked 2 FYs)	-	991	1,011	1,059	1,021
- And Worked in Previous FY (#same prop. in 2 FYs)	-	537	525	478	514
Percentage of the Same Agreements in 2 FYs	-	54%	52%	45%	50%

In light of our many years of experience and the nature of the predator species targeted by WS PDM actions, we know that requests for our assistance and resulting needs for PDM in any given year will occur on some, but probably not all, of the exact same areas where PDM was conducted in the prior year, and that undoubtedly WS will receive PDM requests in new locations next year where PDM was not conducted this year. As such, there is no way for us to be prospectively 100% sure of or to be able to definitively predict all of the exact site-specific locations where WS might receive PDM requests in the future, and thus there is no realistic way to thereby analyze the potential environmental effects of possible PDM actions on those unknown future site-specific locations. That is precisely the fundamental and true point of the analogy we discussed above that, just like emergency response agencies like fire and police departments cannot predict where the next fire will occur or where the next burglary or assault will happen, WS cannot predict when or where the next request for wildlife services will arise. In order to effectively address and appropriately deal with these "unpredictable" factors and aspects, WS has institutionalized a monitoring and "adaptive management" process and developed and uses standard operating procedures (SOPs).

In order to minimize adverse impacts on the public or other aspects of the affected human environment when a response agency goes out to address the next reported incident, the agency

² Civil agreement codes are used for projects that are of short duration and where WS Specialists do not anticipate working in the future. Civil agreements cover counties, cities, or other jurisdictional area (i.e. Bernalillo County, Albuquerque) and are used for minor projects such as trapping a skunk under a residence in an urban area or giving information to somebody to resolve their own problem. These codes can be used several times in one year, and therefore, it is unknown how many projects and properties are associated with them. For example, in FY04, 117 damage occurrences from wildlife (44 from predators) were documented under the 46 civil codes used in FY04, but it is unknown how many projects (direct control or technical assistance) were conducted. This would add to the total number of projects conducted during the FY but are not included in Table 1.

establishes SOPs that are designed to avoid or minimize the risk of adverse effects in the types of areas and situations in which they may find themselves responding to a need for their services. Section 3.4 of the EA describes or references numerous SOPs that we have in place to minimize the risk of adverse environmental effects when we provide PDM assistance in any subsequent specific locale following a request. We believe that these SOPs are effective and sufficiently adequate to avoid significant adverse effects on the quality of the human environment that are affected by WS PDM activities.

Additionally, WS has what could be described as a monitoring and "adaptive management" process in place to maximize the probability that conflicts that might arise as a result of changing circumstances will be identified in the future so that we can take further action to avoid significant adverse effects. That process is the annual coordination and review of our PDM operations that occurs through "work planning" described in Section 1.4 of the EA. This annual coordination and review process is performed with land management agencies and the involved State agencies that are responsible for management of the resources that may be directly or indirectly affected by WS PDM activities. The work planning also provides, in the most practical way we know of, the best opportunity for new potential and substantive environmental concerns to be raised based on changing conditions. For example, if a new "special management area" was established by a wildlife or land management agency to protect a particular species that WS could impact with PDM, then, depending on all the respective facts, we might need to avoid or stop conducting PDM in that area, or switch to using other PDM methods that would not have the potential to have a significant adverse effect on that particular species which would have been analyzed and evaluated for that area. By coordinating at least annually with Federal land and State wildlife managers, they are offered every reasonable opportunity to bring any such changes in circumstances to our attention. What this means to the issue of "site-specificity" is that our SOPs in combination with this annual work planning and review process are built-in means for avoiding significant environmental effects at the local site-specific level, or they allow for the identification of significant effects that would then require the preparation of an EIS if the actions causing such significant effects were proposed for continuation or implementation. Given the nature of WS's request-based service-oriented program for managing damage by wildlife and the often urgent need to quickly respond to requests for assistance, this is the most realistic and practical way for us to address site-specific issues and still be able to meet our Federal responsibilities and mission as authorized by Congress.

The inability to predict where PDM requests will arise is why we have described the typical areas where WS conducts most of its PDM activity in section 3.2.1.1 (a description of "planned-control areas" for each WS District). The majority of WS PDM is conducted for the protection of livestock which could virtually be anywhere in the State where livestock are grazed such as private pasture lands, and BLM rangeland and USFS forest grazing allotments. Other typical locations where PDM actions may be needed include specific and uniquely identifiable locations such as airports, and virtually anyplace in urban, suburban, and rural areas where predators such as raccoons, skunks, and coyotes cause damage to property or pets or present a safety or health (e.g., disease transmission) risk to people. The important concept to convey here is that the need for PDM can occur anywhere in New Mexico within the target predator's range where that predator can damage a resource, something of interest or value to people.

The various predator species included in the scope of this EA do not all occur in the same types of habitats or areas. For example, black bears generally prefer forested areas in New Mexico and do not occur in areas of wide open rangeland. Thus, "typical" locations where PDM is conducted for different species tend to be limited to a particular species' habitat. However, the coyote, which is the species that is the subject of the majority of PDM activity by WS in New Mexico,

occurs statewide in virtually all habitat areas, including many urban and suburban environments. Thus, "typical" areas where PDM to resolve coyote damage problems may be needed can be almost at any location or in any type of habitat in the State where WS is requested for assistance.

The primary concern regarding site-specificity is typically the notion that PDM will lead to the extirpation of a target or nontarget species' population over a broad area at the site-specific level. Sections 2.2.1 and 4.1.1.1 in the EA described the predator populations in New Mexico, their relative abundance, and impacts of PDM in New Mexico at the population level. Sections 2.2.2 and 4.1.2.1 in the EA discussed the nontarget species, including T&E species, that are or could be impacted by WS PDM. Section 3.4 described the SOPs that are incorporated into WS PDM activities to minimize impacts to target and nontarget species. Lethal take of target and nontarget species by WS over the last several fiscal years was analyzed in the EA for target and nontarget species that have or potentially could be impacted by WS PDM. The EA found that none of the predator or nontarget species taken in the last several fiscal years have been impacted by PDM at a level greater than a sustainable level. Additionally, the prior EAs (WS 1997a, b, c, 2001a, b, c) concluded that species had not been impacted at more than a sustainable level in the 3 Districts.

Of the species taken in New Mexico during PDM operations, the coyote, cougar, bobcat, gray fox, and T&E or sensitive species are usually of the greatest concern because they are either frequently targeted by WS or sportsmen, or have small populations and the take of a few could be significant in terms of the population. Take and the potential take of T&E (species with small populations) and sensitive species was adequately discussed in the EA in Sections 2.2.2 and 4.1.2.1. WS has had little, if any, impact on these species nor anticipates any increase in the reasonably foreseeable future. Effects on the coyote population are a concern because the coyote is the species most frequently targeted by WS, with take over 10 times greater than any other species. Coyotes are also the most frequently taken furbearer in New Mexico by sportsmen. Cougars, bobcats, and gray fox are a concern because, although they are not as frequently targeted by WS PDM activities as coyotes, they are often sought by sportsmen, have relatively lower estimated populations, and have a lower harvest potential than other predators. The only species discussed at the local level of the four target predators was the cougar which was analyzed at the game management level in Section 4.1.1.1 of the EA. The EA adequately addressed site-specific impacts to their population. However, Appendix B was added and has analyzed coyote, bobcat, and gray fox take at the county level to determine if local impacts were occurring. Information is not available for smaller units, but these predators would be expected to immigrate or repopulate areas even as large as counties relatively quickly if an impact occurred at that level. The highest take of coyotes by WS PDM and cumulatively occurred in Lea County at 16% and 19% of the estimated county population, respectively. Take could increase over threefold in that County before the sustainable harvest level of 70% for coyotes was reached. Additionally, the impact is likely much lower when factoring in recruitment (births onto the population) which was not done because there was no need. The highest take of bobcats by WS and cumulatively occurred in Chaves County at 7% and 10% of the estimated county population, respectively. Take could increase twofold in that County before the sustainable harvest level of 20% for bobcats was reached. The highest take of gray fox by WS occurred in Chaves County at just over 1% of the estimated population and cumulatively in San Juan County at 10% of the estimated county gray fox population. Recent harvest by sportsmen shows an increase in the take of gray fox. In the 2003-04 hunting season 18% and 17% of the estimated population was taken in Grant and Sierra Counties (WS did not take any gray fox in either counties) still below the level of a sustainable harvest of 25% cited in the EA (literature gives sustainable harvest of 25%-50% for gray fox (BISON-M 2005)). Given the above and data presented in Appendix B, no site-specific impacts could be identified for predators in New Mexico considering cumulative impacts from WS PDM take and sportsmen harvest.

Another concern often stated dealing with site-specific impacts is the take of predators on federally managed lands, specifically BLM and USFS grazing allotments. Predators taken on federally owned or administered lands were given in Table 18 of the EA. However, these looked at WS take at the WS District level and only for FY04. Therefore, we decided to analyze take on federal lands at the more site-specific level. Three predators were targeted on federal lands from FY02 to FY04, the coyote, cougar, and bobcat. Since cougars were analyzed in the EA at the game zone level, the smallest unit that NMDGF manages and monitors, and includes WS take, and since cougars have very large territories and a viable population occurs over areas larger than the county federal land level, it was determined that the analysis in the EA was adequate. However, impacts to coyotes and bobcats on federal lands at the county level were analyzed in Appendix C. The highest level of coyote take by WS and cumulatively (we assumed for the purpose of the analysis that sport harvest for the county was evenly distributed throughout because data is not available otherwise) on BLM lands was 10% and 14% of the estimated coyote population in Luna County. The highest level of take on USFS lands by WS PDM and cumulatively, assuming even distribution of sport harvest, occurred in Taos County at 4% and 5%, respectively. This shows that the impacts have been very minor for coyote take and that take could increase several fold before the sustainable harvest level was reached. The highest level of take for bobcats occurred in Chaves County on BLM lands where WS PDM take and cumulative take was 12% and 15% of the estimated bobcat population. Thus, take could increase before the sustainable harvest level was reached. WS did not take bobcats on USFS lands and therefore did not add to cumulative take on these lands. The above discussion provides data that concludes that WS did not have any significant impacts on coyote or bobcat populations on federal lands at the local level.

The EA and this decision document analyzed impacts on the human environment from WS PDM and provided the SOPs that help avoid impacts so that the analysis could reasonably apply to almost any location in the State where WS could be asked to perform PDM. Therefore, any requests for WS to conduct PDM in almost any "new" area (i.e., an area in which we have not conducted PDM before or in recent years and did not anticipate being requested to conduct PDM in the area) would be a normal or "typical" area for PDM activity. We know of no site-specific environmental aspects in such areas that would be significantly adversely affected by WS PDM, given the nature of our program, methods, and SOPs. Thus, virtually all of the locations we have conducted PDM on in the past, and most, if not all, of the locations on which we could reasonably expect to conduct PDM in the future have been adequately evaluated and analyzed in the final EA and herein. Even though locations we might work in the future are not yet identified, the analysis of impacts applies to those areas and supports a conclusion of no significant impacts similar to the conclusions we have made for those areas we have done PDM actions in the past. The EA and this decision document thoroughly analyzed and evaluated the effects for any area resulting from WS PDM actions. If WS indeed encountered or was made aware of a very different situation or location that deviated from those we have typically worked on in the past or expect to possibly work in the future, or if there were quite different or new factors or aspects that WS had not analyzed or evaluated in the EA, then we would not proceed to provide any wildlife services in such areas until those very different locations or new and unique factors or aspects were appropriately evaluated and analyzed and all the appropriate NEPA procedural requirements were correctly met.

We believe the analysis of relevant environmental issues in the EA and herein are reliable and adequate to reasonably conclude there is little risk of significant adverse effects at the site-specific level in any of the areas of New Mexico to any of the target predator and nontarget species taken in PDM. These analyses fully support and justify a reasonable determination that

the environmental effects resulting from our proposed PDM actions in New Mexico are not significant and that there is no reasonable need to prepare an environmental impact statement for these proposed actions even though the analysis area is New Mexico.

Issue 2: How many operational PDM projects are conducted annually?

A commenter expressed concern that the public has no way of knowing how many PDM projects are orchestrated by WS annually. Table 1 in the EA discussed the number of damage occurrences for each predator species in New Mexico. However, damage occurrences do not necessarily equate to the number of projects that are conducted because a PDM project may entail one or several damage occurrences or only the threat of such an occurrence before a problem is resolved. WS conducts technical assistance and operational PDM projects as described in Section 3.2.1.2 of the EA. The WS MIS (Management Information System – a computer database of WS activities which was upgraded to a new system in FY05) collected information on technical assistance projects by species, but did not collect the number of damage projects specifically linked to species for operational projects on a property. The new system put into effect in FY05 will have this information, but the reports generated by the system are in the process of development. Therefore, WS does not know how many operational projects are specifically done to target predators. However, WS does know the number of WDM projects as a whole that are conducted annually (includes predators, birds, rodents, and other species). Table 2 gives the total number of all WDM projects conducted annually in New Mexico by WS (some of these can involve multiple species). About half of the projects conducted by WS in New Mexico are conducted in response to predator damage as predators are a primary focus of the overall WS program in New Mexico. As shown in Table 2 the average number of WDM projects for FY01 to FY04 was 1,678 with about half of that direct assistance (863). Predator damage occurrences (811) were about half of the total projects (1,678), thus probably about half of the projects. It is likely that WS will conduct from 700 to 1,000 PDM projects annually in New Mexico.

Table 2. The number of WDM projects conducted annually in New Mexico by WS.

WS Assistance	FY 01	FY02	FY03	FY04	Ave.
Technical Assistance	839	804	759	860	816
Direct Assistance Projects	883	923	809	835	863
Total WDM Projects	1,722	1,727	1,568	1,695	1,678
Predator Damage Occurrences*	921	795	764	765	811

* From Table 1 of the EA

Major Issues

WS, cooperating agencies, and the public helped identify a variety of issues deemed relevant to the scope of this EA. Many issues were identified and several were adequately addressed in USDA (1997) and prior EAs (WS 1997a, b, c, 2001a, b, c). Other issues were not analyzed in detail with rationale. Finally, some issues that have been brought up were outside the scope of the EA. All of the issues were considered and consolidated into the following 4 primary issues that were considered in detail in the EA:

- Effects on Target Predator Species Populations
- Effects on Nontarget Species Populations, Including T&E Species
- Impacts on Public Safety, Pets, and the Environment
- Effects of PDM, especially Aerial Hunting Activities, on the Use of Public Lands for Recreation

Affected Environment

The proposed action in the EA is to continue WS's current program of PDM throughout New Mexico where predators are found causing or threatening damage to agriculture, property, natural resources, or public health and safety on public, Tribal, and private properties in New Mexico. PDM will only be conducted where the appropriate Agreement for Control or Work Plan is in place allowing PDM methods to be used. As of the end of January 2005, WS had active cooperative agreements in place on approximately 32% of the State's total land area. However, WS conducts PDM activities on only a portion of these properties annually. In FY04, WS took target predators in PDM on properties from about 14% of the land in New Mexico. The current program's goal and responsibility is to provide service when requested within the constraints of available funding and manpower.

Alternatives Analyzed in Detail

Five potential alternatives were developed to address the issues identified above. Five additional alternatives were considered, but not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives on the objectives and issues is described in Chapter 4 of the EA. The following summary provides a brief description of each alternative and its anticipated impacts.

Alternative 1 - Current Program, the "Proposed Alternative"

This is the "No Action" alternative as defined by CEQ for ongoing programs. This alternative would allow the current program to continue as conducted under the existing WS New Mexico District (Albuquerque, Las Cruces, and Roswell) EAs (WS 1997a, b, c, 2001a, b, c). However, a statewide EA would replace the three New Mexico District EAs with one statewide EA. WS would continue to provide PDM statewide within the scope of the analysis in the EA. Consideration of the No Action alternative is required under 40 CFR 1502.14(d), and provides a baseline for comparing the potential effects of all the other alternatives. In this EA, the "No Action" alternative is consistent with CEQ's definition. In the case of the PDM EA for New Mexico, the No Action Alternative was the equivalent of the Proposed Action Alternative and the Current Program. Alternative 1 benefits individual resource owners/managers, while resulting in only low levels of impact on target and nontarget wildlife populations including T&E species, minimal potential to adversely impact ecosystems, and very low risks to or conflicts with the public and public recreation. Current lethal methods available for use are fairly selective for target species and appear to present a balanced approach to the issue of humaneness when all facets of the issue are considered.

Under the current program, WS responds to requests for PDM to protect livestock, other agricultural resources, human health and safety, property, and natural resources including threatened and endangered species in New Mexico. A major component of the current program is the protection of agriculture, especially livestock, from predation. WS has the objective of responding to all requests for assistance with, at a minimum, technical assistance or self-help advice, or, where appropriate and when cooperative or congressional funding is available, direct damage management assistance with professional WS Specialists conducting damage management actions. An IWDM approach would be implemented which allows the use of any legal technique or method, used singly or in combination, to meet the needs of requestors for resolving conflicts with predatory mammals as given. Agricultural producers and others requesting assistance would be provided with information regarding the use of effective nonlethal and lethal techniques as appropriate. In many situations, the implementation of nonlethal

methods such as fences and animal husbandry techniques would be the responsibility of the requestor to implement which means that, in those situations, WS's only function would be to implement methods difficult for the requestor to implement, if determined to be necessary. PDM by WS would be allowed in the State, when requested, on private, Tribal, and public property where a need has been documented, and where an agreement or other similar instrument, as appropriate, has been established. All management actions would comply with applicable Federal, state, and local laws.

Alternative 2 - No Federal WS PDM

This alternative would consist of no Federal involvement in PDM in New Mexico. Neither direct operational PDM nor technical assistance to provide information on nonlethal or lethal PDM techniques would be available from WS. A portion of the formerly Federal PDM responsibility would be borne by the remaining state agency programs, NMDA and NMDGF. Private individuals would likely increase their efforts as allowed by State law which means more PDM would be conducted by persons with less experience and training, and with little oversight or supervision. Risks to the public, nontarget and T&E species, and public lands and associated recreational activities would probably be greater than under Alternative 1, and effectiveness and selectivity would probably be lower. The use of illegal or inappropriate techniques by frustrated resource owners or managers may increase under this alternative and result in an increase in adverse effects.

Alternative 3 - Technical Assistance Only

Under this alternative, WS would not provide any direct control assistance to persons experiencing predator damage problems, but would instead provide advice, recommendations, and limited technical supplies and equipment. Lethal PDM would likely be conducted by persons with little or no experience and training, and with little oversight or supervision. Risks to the public, nontarget and T&E species, and public lands and associated recreational activities would probably be more than Alternative 1, but slightly less than or about the same as Alternative 2. Effectiveness in resolving predator damage problems and selectivity of PDM actions in targeting damage-causing species or individuals would probably be lower than under Alternatives 1, 4, and 5, but somewhat greater than under Alternative 2. The use of illegal or inappropriate techniques by frustrated resource owners or managers may increase under this alternative and result in an increase in adverse effects.

Alternative 4 - Nonlethal Required before Lethal Control

This alternative would not allow the use of lethal methods by WS as described under the proposed action until nonlethal methods had been attempted. Private landowners and state agencies would still have the option of implementing their own lethal control measures. Risks to or conflicts with the public and target species would be about the same as Alternative 1. Risks to nontarget and T&E species would probably be somewhat greater than Alternative 1, but slightly less than or about the same as Alternative 2 or 3. Program effectiveness would probably be lower than Alternative 1. Personnel experienced in PDM often already know when and where practical nonlethal control techniques would work. Therefore, this alternative could result in the use of methods that are known to be ineffective in particular situations. Selectivity of PDM methods under this alternative would likely be less than Alternative 1 if WS's reduced effectiveness led to greater PDM efforts by less experienced and proficient private individuals, but greater than Alternatives 2 and 3. The use of illegal or inappropriate methods, and adverse effects associated

with such methods, would probably be similar to or slightly higher than that which would occur under Alternative 1, but less than under Alternative 2.

Alternative 5 - Corrective Control Only When Lethal PDM Methods Are Used

This alternative would require livestock depredation or other resource damage by predators to have already occurred before the initiation of lethal control. Alternative 5 would not allow WS to conduct preventive operational PDM. Therefore, WS would not have any direct impact on public or pet health and safety, or on the environment where preventive damage management would have occurred. Most preventive work in New Mexico by WS is focused on areas of historic loss of livestock to coyotes, and to a minor extent, bobcats. Much of this work is conducted with aerial hunting in concert with PDM on the ground. If WS stops conducting preventive PDM, private PDM actions including aerial hunting, would likely increase in these historic loss areas, and would likely be implemented by individuals with less experience than WS personnel potentially resulting in greater impacts on nontarget species and/or on public or pet safety. Cumulative impacts would probably be similar to or less than those that would occur under the No Program Alternative. Impacts and risks from illegal chemical toxicant use under this alternative would probably be similar to or slightly greater than the proposed action, similar to Alternatives 3 and 4, but less than the No Program Alternative.

Alternatives considered but not analyzed in detail were:

- Compensation for Predator Damage Losses
- Bounties
- Eradication and Long Term Population Suppression
- The Humane Society of the United States Alternative
- No PDM Within any Wilderness or Proposed Wilderness

Management Techniques Not Considered for Use in IWDM:

- Mountain Lion Sport Harvest Alternative
- Relocation Rather Than Killing Problem Wildlife
- Immunocontraceptives or Sterilization Should Be Used Instead of Lethal PDM
- Lithium Chloride as an Aversive Agent

Comments regarding the Alternative Selection

The following comments were received regarding the selection of the alternatives:

Both commenters on the EA stated their preferred Alternative: a No Lethal Take Alternative (basically the Technical Assistance Alternative, Alternative 3) and No Federal WS PDM Alternative (Alternative 2).

Finding of No Significant Impact

The analysis in the EA and herein indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of the Proposed Action. I agree with this conclusion and, therefore, find that an Environmental Impact Statement need not be prepared. This determination is based on the following factors:

1. PDM, as conducted by WS in New Mexico, is not regional or national in scope. It is a statewide program and the scope was discussed thoroughly in the EA. Under the proposed Action, WS would continue to assist entities with predator damage as necessary. Even if WS were not involved, PDM will apparently be conducted as required under State law or as allowed by State law by local government or private entities that are not subject to compliance with NEPA.

2. The proposed action would pose minimal risk to public health and safety. No injuries to any member of the public are known to have resulted from WS PDM activities in New Mexico. In addition, a risk assessment of PDM methods used by WS have been analyzed in USDA (1997) and found to pose only minimal risks to the public, pets and nontarget wildlife species. This issue was addressed in the EA and the Proposed Action was found to present the least potential for impacts.

3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected by WS PDM in New Mexico. As discussed in the EA, WS under the Proposed Action Alternative could conduct PDM in wilderness or other special management areas if and when needed but PDM is expected to be needed in relatively few such areas in any one year and would not conflict with the goals or requirements for management of such areas. Annual coordination with land and wildlife management agencies would afford adequate opportunity for changes in circumstances requiring changes in PDM to avoid conflicts, should any be identified.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to predator control, this action is not highly controversial in terms of size, nature, or effect. Predator and nontarget species populations will not be significantly affected by PDM under the Proposed Action, but effects on such populations may be more uncertain under the other Alternatives depending on the efforts of other individuals to conduct PDM and the potential for illegal use of toxicants.

5. Based on the analysis documented in the EA, the effects of the proposed PDM program on the human environment are not highly uncertain and do not involve unique or unknown risks. The other Alternatives could potentially involve unique and unknown risks by non-professionals implementing PDM and frustrated property owners that have been ineffective with PDM methods potentially resorting to use of illegal methods.

6. The proposed action would not establish a precedent for any future action with significant effects. The nature of predator damage management is such that it can be curtailed at any time without automatically leading to other Federal actions that may have significant environmental effects.

7. No significant cumulative effects on the quality of the human environment were identified through the EA.

8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. An evaluation of the proposed action and its effects on T&E species determined that no significant adverse effects would occur to such species. This is supported by the 1992 Biological

Opinion (USDA 1997) and a subsequent Biological Assessment (WS 2003) with a letter of concurrence from USFWS (2003).


10. The proposed action would be in compliance with all Federal, State, and local laws imposed for the protection of the environment.

11. There are no irreversible or irretrievable resource commitments identified by this assessment, except for a minor consumption of fossil fuels and other materials for routine operations.

Decision

I have carefully reviewed the EA and the input resulting from the public involvement process. I believe the issues and objectives identified in the EA would be best addressed through implementation of Alternative 1 (the proposed action to continue the current program). Alternative 1 is therefore selected because it offers, within current program funding constraints, the greatest chance at maximizing effectiveness and benefits to resource owners and managers and other individuals affected by predator damage while minimizing risk to or conflicts with the public, and while also minimizing risks and impacts to target and nontarget species populations including T&E species and to other aspects of the human environment. WS in New Mexico will continue to use an Integrated WDM approach in conducting PDM activities in compliance with all of the applicable standard operating procedures listed in Chapter 3 of the EA.

For additional information regarding this decision, please contact Alan May, USDA-APHIS-WS, 8441 Washington NE, Albuquerque, NM 87113 (505) 346-2640.


Jeffrey S. Green, Regional Director
APHIS-WS Western Region

1/30/06
Date

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- ____ WS. 2001c. Predator damage management in the Roswell ADC District in southeastern New Mexico. Environmental Assessment Monitoring Report, Finding of No Significant Impact, and Record of Decision. 1/8/01. USDA-APHIS-WS, 8441 Washington NE, Albuquerque, NM 87113-1001. 20 pp.
- ____ WS. 2003. Biological Assessment for the management of wildlife damage in New Mexico to protect agricultural and natural resources, property, and human health and safety: Analysis of potential impacts on threatened and endangered species. USDA-APHIS-WS, 8441 Washington NE, Albuquerque, NM 87113-1001. 66 pp.

APPENDIX A

COMMENTS RECEIVED FOR NEW MEXICO 2005 PREDATOR DAMAGE MANAGEMENT ENVIRONMENTAL ASSESSMENT

1. Carson Forest Watch - Joanie Berde, Volunteer Coordinator, and on behalf of Forest Guardians
2. Rebecca Perry-Piper

Letter: Page	Comment	Response
Comments Associated with the Need for Action (Chapter 1) - none		
Comments Associated with the Issues (Chapter 2)		
2: 1	A cost-benefit analysis should be required under NEPA, erroneous not to do so.	Issue – Cost-Benefit Analysis - Specific information to quantify benefits in terms of the value of losses avoided by conducting PDM in New Mexico are not available and difficult to quantify. Cost-benefit is considered in the decision making process when conducting PDM at the site-specific level and is discussed in Section 2.2.6 of the EA. As discussed, CEQ does not require a cost-benefit analysis. In general, benefits can be expected to exceed costs by a considerable degree.
2: 2	Area too large to be covered by an EA.	Issue - site-specificity - this is addressed in the EA and in greater detail in USDA (1997), plus we provide further clarification of our treatment of this issue in the Decision document.
2: 2	Public does not know how many PDM projects are orchestrated by WS.	The MIS (in EA) does not track this data. However, WDM projects (which include all WS projects, but the majority are related to predators) are tracked. This will be considered further in the Decision document.
Comments Associated with the Alternatives (Chapter 3) - none		
Comments Associated with Analysis of Impacts (Chapter 4)		
1: 1-2	Need more analysis on lynx because current program violation of the Endangered Species Act. WS should not conduct PDM in counties where the lynx and marten are found.	Environmental Consequences - Nontarget Species Impacts - This issue was addressed adequately in Sections 2.1.2.2 (list T&E species and species of concern in Colorado and basic life history information) and 4.1.2.1 (gives impacts to T&E species). These sections discussed information on T&E species populations and analyzed impacts of PDM. Standard operating procedures to avoid taking nontargets, including species of concern & T&E species in PDM were addressed in Section 3.4. We believe that the EA adequately discussed concerns for these species and that WS has not taken either under current SOPs so not added to any cumulative impact.
Comments Associated with the EA's Compliance with NEPA Implementing Regulations		
1: 1 2: 1-2	An EIS would be more appropriate rather than an EA because program highly controversial and uncertain.	NEPA Implementation - EIS vs EA Regulations. An EA is written to determine if an agency action will have significant or uncertain impacts on the human environment. If the EA's Decision concludes that the selected alternative to address the need for action would have significant impacts to the human environment then an EIS would be written as required under NEPA. If the conclusion is a finding of no significant impact to the quality of the human environment, then an EIS would not be written. This was discussed adequately in Section 2.3.1 of the EA.
2: 2	WS must abide by environmental laws (e.g., ESA) and by other agency regulations (e.g., EPA).	Environmental Compliance - WS abides by all applicable environmental laws and regulations, EPA labels to conduct PDM in New Mexico. These are discussed where applicable in the EA.
2:2	APHIS has no formal appeals process.	NEPA Implementation – APHIS NEPA implementing guidelines were established according to CEQ guidelines and with public involvement.

2:3	WS should not be responsible for conducting NEPA on federal lands.	NEPA Implementation - NEPA implementing regulations clearly define the lead agency for NEPA as the agency that will take the action. In this case, WS is the agency that is taking the action on federal lands, and thus the lead agency for the action. WS has MOUs with the primary land managing agencies (BLM and USFS) that outline NEPA responsibilities for each agency. WS clearly is responsible for NEPA covering PDM on federal lands.
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Literature Cited

U.S. Department of Agriculture (USDA). 1997. Animal Damage Control Program Final Environmental Impact Statement. (*Revision*) USDA-APHIS-WS, Operational Support Staff, 6505 Belcrest Rd., Room 820 Federal Bldg, Hyattsville, MD 20782. 314 pp + App.

APPENDIX B

IMPACTS OF WS PDM ACTIVITIES ON COYOTE, BOBCAT, AND GRAY FOX POPULATIONS IN NEW MEXICO COUNTIES

County cumulative impacts to coyotes, bobcats, and gray fox in New Mexico from WS PDM take combined with NMDGF harvest data are considered in Tables 1, 2, and 3. WS collects information on coyote, bobcat, and gray fox take in the Management Information System (MIS) as described in the EA. NMDGF annually conducts a furbearer harvest survey by mail/internet (bobcats must be tagged and thus a more accurate count of their take is available). NMDGF typically gets only a small number of respondents at (i.e., for the 2003-04 season only a 25% response rate from the hunters/trappers). Thus, although information is available for each species of furbearer taken in different counties, the data is not as reliable as would be hoped. However, for the purposes of determining site-specific impacts, it is the best available data. The cumulative impact is conducted on a 3 year average. For WS the average comes from FY02 to FY04 (these are the actual numbers taken). The average for hunter harvest comes from the 2001-02 hunting season to the 2003-04 hunting season (hunting seasons basically correspond with the federal fiscal year). Since harvest estimates at the county-level can be unreliable and have unrealistic numbers, three years are averaged. This added to WS PDM take provides an average cumulative impact to the coyote, bobcat, and gray fox populations.

Table 1 shows WS and cumulative impacts to coyotes in each county and statewide. Table 2 provides WS PDM and cumulative impacts to the bobcat at the county and statewide level. Table 3 provides WS PDM and cumulative impacts to the gray fox population at the county and statewide level. Take for all three species has not risen to a level of significance in any county or statewide.

Table 1. Coyote take by WS PDM and from sport harvest for FY02 to FY04 and the impact this has had on the coyote population by WS and cumulatively at the county and statewide level.

County	Size (mi ²) and Est. Coyote Population*	WS PDM Coyote Take					Coyote Harvest (Season)				Ave. Cumulative Take	
		FY02	FY03	FY04	Ave. WS Take	% Est. Population	01-02	02-03	03-04	Ave. Harvest	FY02 - FY04	% Est. Population
Bernalillo	1,166	9	10	1	7	1%	11	0	0	4	10	1%
Catron	6,928	47	0	115	54	1%	110	178	20	103	157	2%
Chaves	6,071	373	432	276	360	6%	103	29	90	75	435	7%
Cibola	4,539	99	73	28	67	1%	56	10	45	37	104	2%
Colfax	3,757	30	129	192	117	3%	77	64	91	77	194	5%
Curry	1,406	13	29	81	41	3%	11	27	51	30	71	5%
De Baca	2,325	289	187	232	256	10%	0	0	64	21	257	11%
Dona Ana	3,807	183	214	226	208	5%	94	140	202	145	353	9%
Eddy	4,182	288	216	151	218	5%	141	91	219	150	369	9%
Grant	3,966	236	334	305	292	7%	70	61	210	114	405	10%
Guadalupe	3,030	300	218	311	276	9%	0	48	56	35	311	10%
Harding	2,125	269	292	190	250	12%	0	0	71	24	274	13%
Hidalgo	3,446	263	218	189	223	6%	121	54	45	73	297	9%
Lea	4,393	719	614	712	682	16%	77	226	194	166	847	19%
Lincoln	4,831	331	257	368	319	7%	47	38	61	49	367	8%
Los Alamos	109	0	0	0	0	0%	0	12	5	6	6	5%
Luna	2,965	498	278	439	405	14%	143	127	105	125	530	18%
McKinley	5,449	8	4	3	5	0%	9	48	93	50	55	1%
Mora	1,931	50	17	3	23	1%	0	0	5	2	25	1%
Otero	6,626	182	133	164	160	2%	141	60	181	127	287	4%
Quay	2,875	418	391	356	388	14%	82	33	37	51	439	15%
Rio Arriba	5,858	112	121	107	113	2%	66	128	81	92	205	3%
Roosevelt	2,448	186	117	206	170	7%	0	11	0	4	173	7%
Sandoval	3,709	0	0	2	1	0%	83	68	94	82	82	2%
San Juan	5,514	0	0	0	0	0%	365	273	396	345	345	6%
San Miguel	4,717	198	251	6	152	3%	9	51	16	25	177	4%
Santa Fe	1,909	0	0	0	0	0%	35	161	87	94	94	5%
Sierra	4,180	72	56	46	58	1%	98	142	123	121	179	4%
Socorro	6,646	285	217	162	221	3%	77	122	297	165	387	6%
Taos	2,203	86	18	69	58	3%	15	16	25	19	76	3%
Torrance	3,345	271	315	252	279	8%	53	53	154	87	366	11%
Union	3,830	252	233	176	220	6%	32	108	74	71	292	8%
Valencia	1,068	54	16	20	30	3%	59	42	82	61	91	9%
Unknown	2	-	12	-	4	-	10	2	157	56	60	-
Total	121,356	6,121	5,402	5,388	5,637	5%	2,197	2,423	3,431	2,684	8,321	7%

* Coyotes were estimated using a density of 1/mi² and found statewide, thus land area and coyote population would be the same.

Table 2. Bobcat take by WS PDM and from sport harvest for FY02 to FY04 and the impact this has had on the bobcat population by WS and cumulatively at the county and statewide level.

County	Size (mi²)	Est. Bobcat Population*	WS Bobcat Take					Bobcat Harvest (Season)				Ave. Cumulative Take	
			FY02	FY03	FY04	Ave. WS Take	% Est. Population	01-02	02-03	03-04	Ave. Harvest	FY02 - FY04	% Est. Population
Bernalillo	1,166	226	-	-	-	0	0%	2	-	-	1	1	0%
Catron	6,928	1,341	-	-	-	0	0%	19	37	93	50	50	4%
Chaves	6,071	1,175	95	80	72	82	7%	24	3	77	35	117	10%
Cibola	4,539	878	-	-	-	0	0%	4	-	25	10	10	1%
Colfax	3,757	727	-	-	-	0	0%	2	-	30	11	11	1%
Curry	1,406	272	-	-	-	0	0%	1	-	-	0	0	0%
De Baca	2,325	450	-	4	-	1	0%	-	-	2	1	2	0%
Dona Ana	3,807	737	-	-	5	2	0%	4	4	22	10	12	2%
Eddy	4,182	809	3	5	2	3	0%	6	10	50	22	25	3%
Grant	3,966	767	-	-	-	0	0%	6	11	67	28	28	4%
Guadalupe	3,030	586	-	7	1	3	0%	-	4	3	2	5	1%
Harding	2,125	411	-	-	-	0	0%	-	2	8	3	3	1%
Hidalgo	3,446	667	-	-	-	0	0%	6	1	9	5	5	1%
Lea	4,393	850	-	-	-	0	0%	-	6	1	2	2	0%
Lincoln	4,831	935	45	27	34	35	4%	33	40	75	49	85	9%
Los Alamos	109	21	-	-	-	0	0%	-	-	5	2	2	8%
Luna	2,965	574	-	-	-	0	0%	4	5	5	5	5	1%
McKinley	5,449	1,054	-	-	-	0	0%	7	26	19	17	17	2%
Mora	1,931	374	-	-	-	0	0%	-	-	1	0	0	0%
Otero	6,626	1,282	6	5	1	4	0%	9	28	25	21	25	2%
Quay	2,875	556	-	-	-	0	0%	2	1	4	2	2	0%
Rio Arriba	5,858	1,134	-	-	-	0	0%	5	22	39	22	22	2%
Roosevelt	2,448	474	-	-	-	0	0%	-	1	-	0	0	0%
Sandoval	3,709	718	-	-	-	0	0%	1	13	25	13	13	2%
San Juan	5,514	1,067	-	-	-	0	0%	109	73	96	93	93	9%
San Miguel	4,717	913	-	-	-	0	0%	2	1	3	2	2	0%
Santa Fe	1,909	369	-	-	-	0	0%	-	13	5	6	6	2%
Sierra	4,180	809	-	-	-	0	0%	5	5	31	14	14	2%
Socorro	6,646	1,286	-	-	-	0	0%	14	36	50	33	33	3%
Taos	2,203	426	-	-	-	0	0%	2	2	4	3	3	1%
Torrance	3,345	647	14	8	4	9	1%	4	3	57	21	30	5%
Union	3,830	741	-	-	-	0	0%	-	24	7	10	10	1%
Valencia	1,068	207	-	-	-	0	0%	-	-	8	3	3	1%
Unknown	2	0	5	-	3	3	-	-	1	11	4	7	-
Total	121,356	23,482	168	136	122	142	1%	271	372	857	500	642	3%

* Bobcats were estimated using a density of 0.5/mi² with 39% of the state considered to have suitable habitat for them.

Table 3. Gray fox take by WS PDM and from sport harvest for FY02 to FY04 and the impact this has had on the gray fox population by WS and cumulatively at the county and statewide level.

County	Size (mi ²)	Est. Gray Fox Population	WS Gray Fox Target and Nontarget Take					Gray Fox Harvest (Hunting Season)				Ave. Cumulative Take	
			FY02	FY03	FY04	Ave. WS Take	% Est. Population	01-02	02-03	03-04	Ave. Harvest	FY02 - FY04	% Est. Population
Bernalillo	1,166	380	-	-	-	0	0%	3	1	4	3	3	1%
Catron	6,928	2,258	-	-	-	0	0%	8	139	100	82	82	4%
Chaves	6,071	1,979	14	62	7	28	1%	73	-	49	41	68	3%
Cibola	4,539	1,479	1	2	-	1	0%	4	-	8	4	5	0%
Colfax	3,757	1,224	-	-	-	0	0%	-	-	32	11	11	1%
Curry	1,406	458	-	-	-	0	0%	-	-	-	0	0	0%
De Baca	2,325	758	-	-	-	0	0%	-	-	6	2	2	0%
Dona Ana	3,807	1,241	-	1	1	1	0%	4	1	44	16	17	1%
Eddy	4,182	1,363	-	-	-	0	0%	-	29	123	51	51	4%
Grant	3,966	1,293	-	-	-	0	0%	19	53	234	102	102	8%
Guadalupe	3,030	987	-	-	-	0	0%	-	-	20	7	7	1%
Harding	2,125	693	-	-	2	1	0%	-	-	19	6	7	1%
Hidalgo	3,446	1,123	-	-	-	0	0%	2	-	21	8	8	1%
Lea	4,393	1,432	-	-	-	0	0%	5	-	5	3	3	0%
Lincoln	4,831	1,574	1	11	14	9	1%	22	128	102	84	93	6%
Los Alamos	109	36	-	-	-	0	0%	-	-	11	4	4	10%
Luna	2,965	966	-	-	-	0	0%	2	1	6	3	3	0%
McKinley	5,449	1,776	-	-	-	0	0%	-	8	6	5	5	0%
Mora	1,931	629	-	-	-	0	0%	-	-	2	1	1	0%
Otero	6,626	2,159	1	1	-	1	0%	14	14	51	26	27	1%
Quay	2,875	937	-	-	-	0	0%	6	-	17	8	8	1%
Rio Arriba	5,858	1,909	-	-	-	0	0%	21	10	31	21	21	1%
Roosevelt	2,448	798	1	-	-	0	0%	-	-	-	0	0	0%
Sandoval	3,709	1,209	-	-	-	0	0%	23	23	15	20	20	2%
San Juan	5,514	1,797	-	-	-	0	0%	206	139	211	185	185	10%
San Miguel	4,717	1,537	4	8	-	4	0%	1	11	1	4	8	1%
Santa Fe	1,909	622	-	-	-	0	0%	4	13	13	10	10	2%
Sierra	4,180	1,362	-	-	-	0	0%	17	19	228	88	88	6%
Socorro	6,646	2,166	-	-	-	0	0%	14	23	127	55	55	3%
Taos	2,203	718	-	-	-	0	0%	-	6	-	2	2	0%
Torrance	3,345	1,090	-	3	5	3	0%	26	1	26	18	20	2%
Union	3,830	1,248	-	-	-	0	0%	-	61	-	20	20	2%
Valencia	1,068	348	2	1	2	2	0%	14	8	26	16	18	5%
Unknown	2	1	2	2	-	1	-	-	2	40	14	15	-
Total	121,356	39,550	26	91	31	49	0%	488	690	1,578	919	968	2%

* Gray fox were estimated using a density of 1.0/mi² with 33% of the state considered to have suitable habitat for them.

APPENDIX C

IMPACTS OF WS PDM ACTIVITIES ON COYOTE AND BOBCAT POPULATIONS IN NEW MEXICO COUNTIES ON FEDERAL LANDS

WS PDM and cumulative (WS PDM take combined with NMDGF sportsmen harvest data) impacts to coyotes and bobcats on federal lands (BLM and USFS grazing allotments) in New Mexico counties are considered in Tables 1 and 2. WS collects information on coyotes and bobcats in the Management Information System (MIS) as described in the EA. NMDGF annually conducts a furbearer harvest survey by mail/internet (bobcats must be tagged and thus a more accurate count of their take is available). NMDGF provides harvest in each county, but does not separate this by land class. Therefore we had to use a percentage of the harvest (the same percentage as the federal land in a county) for the cumulative impacts analysis and had to assume that harvest in a county was evenly distributed. NMDGF typically gets only a small number of respondents at (i.e., for the 2003-04 season only a 25% response rate from the hunters/trappers). Thus, although information is available for each species of furbearer taken in different counties, the data is not as reliable as would be hoped. However, for the purposes of determining site-specific impacts on federal lands, it is the best available data. The cumulative impact is conducted on a 3 year average. For WS the average comes from FY02 to FY04 (these are the actual numbers taken). The average for hunter harvest comes from the 2001-02 hunting season to the 2003-04 hunting season (hunting seasons basically correspond with the federal fiscal year). Since harvest estimates at the county-level can be unreliable and have unrealistic numbers, three years are averaged. This added to WS PDM take provides an average cumulative impact to the coyote and bobcat populations.

Table 1 shows WS and cumulative impacts to coyotes in each county and statewide for BLM and USFS lands. Table 2 provides WS PDM and cumulative impacts to the bobcat at the county and statewide level for BLM lands; USFS lands are shown, but WS did not take any on USFS lands from FY02 to FY04 and thus had no impact on them. Take for these two species was not at a level of significance in any county or statewide on either BLM or USFS lands.

Table 1. Coyote take by WS PDM and from sport harvest for FY02 to FY04 and the impact this has had on the coyote population by WS and cumulatively at the county and statewide level on BLM and USFS lands.

County	County Size (mi ²)	Ave. Coyote Harvest 02-04	BLM Coyote Take							USFS Coyote Take						
			BLM Area (mi ²)	FY02	FY03	FY04	Ave. WS Take	% Est. Pop.	Cumul. % Est. Pop.*	USFS Area (mi ²)	FY02	FY03	FY04	Ave. WS Take	% Est. Pop.	Cumul. % Est. Pop.*
Bernalillo	1,166	4	27	-	-	-	0	0%	0%	120	-	-	-	0	0%	0%
Catron	6,928	103	909	-	-	4	1	0%	2%	3,464	-	-	53	18	1%	2%
Chaves	6,071	75	1,869	121	177	110	136	7%	9%	63	-	-	-	0	0%	1%
Cibola	4,539	37	401	7	-	-	2	1%	1%	572	-	-	-	0	0%	1%
Colfax	3,757	77	0	-	-	-	-	-	2%	16	-	-	-	0	0%	2%
Curry	1,406	30	1	-	-	-	0	0%	2%	0	-	-	-	-	-	-
De Baca	2,325	21	127	-	-	-	0	0%	1%	0	-	-	-	-	-	-
Dona Ana	3,807	145	1,799	147	92	153	131	7%	11%	0	-	-	-	-	-	-
Eddy	4,182	150	2,219	178	151	138	156	7%	11%	211	-	-	-	0	0%	4%
Grant	3,966	114	603	-	6	12	6	1%	4%	1,382	-	-	-	0	0%	3%
Guadalupe	3,030	35	184	-	-	-	0	0%	1%	0	-	-	-	-	-	-
Harding	2,125	24	0	-	-	-	-	-	-	110	-	-	-	0	0%	1%
Hidalgo	3,446	73	1,259	54	83	31	56	4%	7%	121	-	-	-	0	0%	2%
Lea	4,393	166	730	10	79	50	46	6%	10%	0	-	-	-	-	-	-
Lincoln	4,831	49	880	12	13	23	16	2%	3%	626	-	-	-	0	0%	1%
Los Alamos	109	6	0	-	-	-	-	-	-	0	-	-	-	-	-	-
Luna	2,965	125	1,224	159	98	112	123	10%	14%	0	-	-	-	-	-	-
McKinley	5,449	50	550	-	-	-	0	0%	1%	279	-	-	-	0	0%	1%
Mora	1,931	2	12	-	-	-	0	0%	0%	155	-	-	-	0	0%	0%
Otero	6,626	127	1,471	116	54	41	70	5%	7%	850	1	-	-	0	0%	2%
Quay	2,875	51	12	-	-	-	0	0%	2%	0	-	-	-	-	-	-
Rio Arriba	5,858	92	868	-	-	-	0	0%	2%	2,167	9	10	5	8	0%	2%
Roosevelt	2,448	4	26	-	-	-	0	0%	0%	0	-	-	-	-	-	-
Sandoval	3,709	82	920	-	-	-	0	0%	2%	580	-	-	-	0	0%	2%
San Juan	5,514	345	1,577	-	-	-	0	0%	6%	0	-	-	-	-	-	-
San Miguel	4,717	25	102	-	-	-	0	0%	1%	504	-	-	-	0	0%	1%
Santa Fe	1,909	94	134	-	-	-	0	0%	5%	392	-	-	-	0	0%	5%
Sierra	4,180	121	1,285	34	17	13	21	2%	5%	592	-	-	-	0	0%	3%
Socorro	6,646	165	1,483	109	21	29	53	4%	6%	981	8	2	3	4	0%	3%
Taos	2,203	19	324	-	-	-	0	0%	1%	822	20	17	54	30	4%	5%
Torrance	3,345	87	88	-	-	-	0	0%	3%	236	-	-	-	0	0%	3%
Union	3,830	71	1	-	-	-	0	0%	2%	90	-	-	-	0	0%	2%
Valencia	1,068	61	44	-	-	-	0	0%	6%	24	-	-	-	0	0%	6%
Total	121,356	2,684	21,123	947	791	716	818	4%	6%	14,356	38	29	115	61	0%	3%

* Cumulative impact includes the average coyotes harvested in the county from seasons 2001-02 to 2003-04 multiplied by the percentage of federal land in the county and then combined with WS take. This assumes that coyote take was evenly distributed throughout the counties.

Table 1. Bobcat take by WS PDM and from sport harvest for FY02 to FY04 and the impact this has had on the bobcat population by WS and cumulatively at the county and statewide level on BLM and USFS lands.

County	County Size (mi ²)	BLM Bobcat Take											USFS Bobcat Take	
		BLM Area (mi ²)	Est. Bobcat Pop.	FY02	FY03	FY04	Ave. WS Take	% Est. Pop.	Ave. County Harvest 02 to 04	Est. Harvest on BLM Lands	Cumul. Take	% Est. Pop.	USFS Area (mi ²)	WS Take FY02-FY04**
Bernalillo	1,166	27	5	-	-	-	0	0%	1	0	0	0%	120	0
Catron	6,928	909	176	-	-	-	0	0%	50	7	7	4%	3,464	0
Chaves	6,071	1,869	362	57	47	26	43	12%	35	11	54	15%	63	0
Cibola	4,539	401	78	-	-	-	0	0%	10	1	1	1%	572	0
Colfax	3,757	0	0	-	-	-	-	-	11	0	0	-	16	0
Curry	1,406	1	0	-	-	-	0	0%	0	0	0	0%	0	-
De Baca	2,325	127	25	-	-	-	0	0%	1	0	0	0%	0	-
Dona Ana	3,807	1,799	348	-	-	5	2	0%	10	5	6	2%	0	-
Eddy	4,182	2,219	429	3	5	1	3	1%	22	12	15	3%	211	0
Grant	3,966	603	117	-	-	-	0	0%	28	4	4	4%	1,382	0
Guadalupe	3,030	184	36	-	-	-	0	0%	2	0	0	0%	0	-
Harding	2,125	0	0	-	-	-	-	-	3	0	0	-	110	0
Hidalgo	3,446	1,259	244	-	-	-	0	0%	5	2	2	1%	121	0
Lea	4,393	730	141	-	-	-	0	0%	2	0	0	0%	0	-
Lincoln	4,831	880	170	4	11	3	6	4%	49	9	15	9%	626	0
Los Alamos	109	0	0	-	-	-	-	-	2	0	0	-	0	-
Luna	2,965	1,224	237	-	-	-	0	0%	5	2	2	1%	0	-
McKinley	5,449	550	106	-	-	-	0	0%	17	2	2	2%	279	0
Mora	1,931	12	2	-	-	-	0	0%	0	0	0	0%	155	0
Otero	6,626	1,471	285	5	5	-	3	1%	21	5	8	3%	850	0
Quay	2,875	12	2	-	-	-	0	0%	2	0	0	0%	0	-
Rio Arriba	5,858	868	168	-	-	-	0	0%	22	3	3	2%	2,167	0
Roosevelt	2,448	26	5	-	-	-	0	0%	0	0	0	0%	0	-
Sandoval	3,709	920	178	-	-	-	0	0%	13	3	3	2%	580	0
San Juan	5,514	1,577	305	-	-	-	0	0%	93	27	27	9%	0	-
San Miguel	4,717	102	20	-	-	-	0	0%	2	0	0	0%	504	0
Santa Fe	1,909	134	26	-	-	-	0	0%	6	0	0	2%	392	0
Sierra	4,180	1,285	249	-	-	-	0	0%	14	4	4	2%	592	0
Socorro	6,646	1,483	287	-	-	-	0	0%	33	7	7	3%	981	0
Taos	2,203	324	63	-	-	-	0	0%	3	0	0	1%	822	0
Torrance	3,345	88	17	-	-	-	0	0%	21	1	1	3%	236	0
Union	3,830	1	0	-	-	-	0	0%	10	0	0	1%	90	0
Valencia	1,068	44	8	-	-	-	0	0%	3	0	0	1%	24	0
Total	121,356	21,123	4,087	69	68	35	57	1%	500	87	144	4%	14,356	0

* Cumulative impact includes the average bobcats harvested in the county from seasons 2001-02 to 2003-04 multiplied by the percentage of federal land in the county and then combined with WS take. This assumes that bobcat sportsmen harvest was evenly distributed throughout the counties.

** WS took no bobcats on USFS lands and, thus, had no impact on their populations.